

Application No.: 10/772,752
Amendment dated: November 18, 2005
Reply to Office Action of July 18, 2005
Attorney Docket No.: 22176.28 (ITW-14460)

This listing of claims will replace all prior versions and listings of claims in this application:

a.) Listing of Claims

1. (Currently Amended) A multi-layer material for forming an image on a substrate, the material comprising an ~~embossable~~ embossed layer comprising a plurality of panels, wherein each individual panel is tinted with one of the ~~primary~~ YMCK colors and is ~~processed~~ holographically and optically variably configured to diffract incoming light at a predetermined reflection angle α_n , which predetermined angle α_n is different for each individual panel.
2. (Currently Amended) The material of claim 1, wherein each individual panel is ~~processed~~ holographically and optically variably configured by being embossed to diffract incoming light at the predetermined angle α_n , which angle α_n is different from the angles of reflection of the embossings in other panels.
3. (Currently Amended) The material of claim 1, wherein each individual panel is ~~processed~~ holographically and optically variably configured to comprise a plurality of pixels embossed in such a way that all pixels disposed within the same individual panel diffract incoming light at the predetermined angle of α_n , resulting in a multi-panel arrangement wherein each panel comprises pixels embossed to diffract incoming light at an angle different from the angles of diffraction of the pixels in other panels.
4. (Currently Amended) The material of claim 1, further comprising a thermally stable layer, a wear resistant layer or top coat, a reflective layer overlaid upon the ~~embossable~~ embossed layer and a heat activated adhesive layer serving to attach the material to the substrate upon heat activation.
5. (Currently Amended) The material of claim 1, wherein ~~a plurality~~ each of angles α_n ($n \leq 256$) ~~correspond to a plurality of~~ is assigned a predetermined

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~~numbers number forming a sequence of numbers.~~

6. (Currently Amended) The material of claim 1, wherein the primary YMCK colors comprise yellow-magenta-cyan-black.

7. (Withdrawn) A method of forming a color image having a holographic appearance on a substrate, the image being comprised of image forming pixels, the method comprising: providing a transfer material having an embossable layer comprising a plurality of panels, wherein each individual panel is tinted with one of the primary colors and is processed to diffract incoming light at a predetermined reflection angle α_n , which predetermined angle α_n is different for each panel; and forming the color image on the substrate by selective pixel transferring of the image forming pixels from each individual panel tinted with one of the primary colors onto the substrate.

8. (Withdrawn) The method of claim 7, wherein selective pixel transferring comprises heat activating of each pixel of the image forming pixels and causing each pixel to separate from the transfer material and to adhere to the substrate.

9. (Withdrawn) The method of claim 8, wherein selective pixel transferring comprises heat activating of each pixel of the image forming pixels and causing each pixel to separate from the transfer material and to adhere to the substrate.

10. (Withdrawn) The method of claim 7, further comprising providing a computer controlling selective pixel transferring of the image forming pixels from the transfer material to the substrate to form the holographic image.

11. (Currently Amended) A multi-layer material for forming an image on a substrate, wherein any layer of the multi-layer material is tinted with one of the primary YMCK colors, the material comprising an embossable embossed layer comprising a plurality of panels, wherein each individual panel corresponds to

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one of the ~~primary~~ YMCK colors and is ~~processed~~ holographically and optically variably configured to diffract incoming light at a predetermined reflection angle α_n , which predetermined angle α_n is different for each individual panel.

12. (Withdrawn) A method of forming an image having a holographic appearance on a substrate, the image being comprised of image forming pixels, the method comprising: providing a multi-layer transfer material wherein any layer of the multi-layer material is tinted with one of the primary colors, the material having an embossable layer comprising a plurality of panels, wherein each individual panel corresponds to one of the primary colors and is processed to diffract incoming light at a predetermined reflection angle α_n , which predetermined angle α_n is different for each panel; and forming the image on the substrate by selective pixel transferring of the image forming pixels from each individual panel tinted with one of the primary colors onto the substrate.

13. (Withdrawn) The method of claim 12, wherein selective pixel transferring comprises blending individual pixels.

14. (Withdrawn) The method of claim 12, wherein forming the color image on the substrate by selective pixel transferring comprises forming stand alone pixels on the substrate.

15. (Currently Amended) A holographic image formed on a substrate, the holographic image comprising a plurality of multi-layer holographic pixels ~~dots~~ formed on the substrate by separating from a multi-layer image forming material and adhering to the substrate in a pixel-by-pixel transfer process, wherein each of the ~~dots~~ pixels is comprised of either a ~~dot~~ pixel tinted in one of the primary colors or of more than one ~~dots~~ pixels tinted in one of the primary colors, and wherein each ~~dot~~ pixel diffracts light at a predetermined diffraction angle.

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b.) Remarks

Claims 1-6, 11 and 15 are pending in this application. Claims 1-6, 11 and 15 have been amended in various particulars as indicated hereinabove. Claims 7-10, 12-14 are withdrawn.

Claims 1-6 and 11 were rejected under 35 U.S.C. 112, first paragraph. It is believed that the pending claims as amended are now in compliance with 35 U.S.C. 112, first paragraph.

Claims 1-6 and 11 were objected to as listed in item 6, page 3 of the Office Action. It is also believed that the pending claims as amended overcome the objections.

Claims 1-3, 5-6 and 11 were rejected under 35 U.S.C. 103(a) over Rice (U.S. 5,396,839, "Rice"). This rejection is respectfully traversed for the following reasons.

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case of obviousness. The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications, which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references.¹ The cited publications should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made.²

Independent amended Claims 1 and 11 claim a multi-layer material. The Patent Office has stated that Rice teaches a multi-layer material for forming an image. Applicant respectfully disagrees and asserts the following. The material in Rice is a printing plate 31, which contains a pattern of distinctly configured color separated halftones 39 of image 21. (Col. 5, lines 30-32). Fig. 7 and the corresponding description in Col. 7-8 of Rice, cited by the Patent Office, disclose a portion of surface 58 of sheet 57 on embossing plate 36. Embossing plate 36 with surface 58 is not printing plate 31 and is not a multi-

¹ *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

² *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970);

Amgen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996);

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layer material for forming an image on a substrate, as claimed in independent Claim 1. Nowhere in Rice could a multi-layer material for forming an image on a substrate be found.

The Patent Office has also stated that Rice discloses an embossable layer 55 that is tinted with ink 54. Applicant disagrees and asserts that no embossable layer of the multi-layer printing material which is later used to form an image on a substrate (carrier) is tinted with ink 54. Rice discloses that "embossing plate 36 is pressed against ink dots 55 on the passing printing stock with composite image 48." (Col. 8, lines 20-23). "Ink 54 from ink roller 28 sticks only to composite image 48..." (Col. 7, lines 32-33), describing that the ink is applied to the image, not to the multi-layer material with a tinted embossed layer, which can be used to form an image on a substrate, as claimed in amended Claim 1 or amended Claim 11. So in Rice embossing happens on the already formed image, which contains ink dots. No disclosure of a material containing a tinted embossed layer, which material can be used for forming an image on a substrate was found in Rice.

Moreover, no disclosure of a plurality of panels holographically or optically variably configured to diffract incoming light at a predetermined reflection angle α_n , which predetermined angle α_n is different for each individual panel, was found in Rice. Rice discloses that "ink dots 55 on surface 23 have at least three different diffraction gratings 56 formed thereon to provide three different colors and ink dots 55 reproduce image 21 in full color when printing stock is viewed at the appropriate angle 68." (Col. 9, lines 19-25). Rice discloses ink dots of a full color image upon which diffraction gratings can be embossed. Nowhere in Rice could be found a disclosure of a plurality of panels in a multi-layer material that is used to form an image on a substrate, the plurality of panels being holographically or optically variably configured to diffract incoming light at a predetermined reflection angle.

Applicant respectfully asserts that for the reason presented above, Rice does not teach or suggest all elements of the invention as claimed in amended independent Claim 1 or in amended independent Claim 11. Therefore, the rejection under 35 U.S.C. 103(a) should be withdrawn and independent Claims 1 and 11 should be allowed.

Claims 2-6 depend off now allowable Claim 1 and should be allowed.

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Claim 15 was rejected under 35 U.S.C. 103(a) over Rice. This rejection is respectfully traversed for the following reasons. It is respectfully asserted that for all the reasons already presented above, Rice provides no disclosure of an image comprising a plurality of multi-layer holographic pixels formed on the substrate by separating from a multi-layer image forming material and adhering to the substrate in a pixel-by-pixel transfer process, as claimed in amended independent Claim 15. Therefore, the rejection of Claim 15 should be withdrawn and Claim 15 should be allowed.

Applicants believe that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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